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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,948	02/14/2002	John Rhoades	0120-024	6384
42015	7590	07/27/2007		
POTOMAC PATENT GROUP PLLC			EXAMINER	
P. O. BOX 270			PAN, DANIEL H	
FREDERICKSBURG, VA 22404				
			ART UNIT	PAPER NUMBER
			2183	
			MAIL DATE	DELIVERY MODE
			07/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/073,948	RHOADES ET AL.
	Examiner Daniel Pan	Art Unit 2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 06 May 2007.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) See Continuation Sheet is/are pending in the application.  
 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-4,6-9,11-13,16,17,19-22,32,34,35,38,40,41,44,46,47,50,52,53,56 and 59-64 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 09/30/2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 09/30/02, 08/24/05, 08/25/05.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

Continuation of Disposition of Claims: Claims pending in the application are 1-4,6-9,11-13,16,17,19-22,32,34,35,38,40,41,44,46,47,50,52,53,56 and 59-64.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 5,10,14,15,18,23-31,33,36,37,39,42,43,45,48,49,51,54,55,57 and 58.

1. Claims 1-4,6-9,11-13,16,17,19-22,32,34,35,38,40,41 ,44,46,47,,50,52,53,56,59-64 are elected for examination. Claims 5,10,14-15, 18,23-31, 33,36-37, 39, 42, 43, 45, 48, 49, 51, 54, 55,57,58 39,45,51,57 have been canceled. Applicant's election without traverse of Group I in the reply filed on 05/06/07 is acknowledged.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4,6-9,11-13,16,17,19-22,32,34,35,38,40,41 ,44,46,47,,50,52,53,56,59-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (5,463,732) in view of Campbell et al. (5,021,947) .

3. As to claims 1, 4, 7, 9,32, 52, 60, 34, Taylor taught a data processing system comprising:

a) an input device for receiving an incoming stream of data packets of a predetermined size (see input circuit in fig.2 [202], col.5, lines 15-20); and

b) a plurality of processing elements (processors p 106) which are operable to process data received, the input device is operable to distribute whole data packets across one or more of the processing elements (processor p 106) , the number of the processing elements across which each whole data packet is distributed among the processing

elements (processors) , a data packet greater than a predetermined size (more than one pixel value ) being divided into portions (one pixel) and each portion distributed to a respective processing element (see each processor 106 for each distributed pixel value in col.5, lines 30-42); and

a data packet less than a predetermined size being distributed to a single processing element (see one pixel value for each processor 106 in col.5, lines 30-42), and , the data processing system was operable to process at least one data packet at a time (see serial data stream in col.5, lines 26-30).

4. Taylor did not specifically teach the number of PEs was dynamically determined based on the size of the data packet , nor the unpredictable packet size as claimed. However, Campbell disclosed a variable packet size (see col.8, lines 5-18) and a system including the number of PEs was dynamically determined by the length of the packets (see the function of number of PEs with the packet length fig.15). It would have been obvious to one of ordinary skill in the art to use Campbell in Taylor for including the number of processing elements determined based on the size of packet as claimed because the use of Campbell could provide Taylor the control capability to distribute the data depending on the number of processing elements, and minimizing the conflict among the processing elements, and it could be done by predefining configuration variables of Campbell (e.g. the width of the data packet into Taylor so that the specific size of the packet could be recognized by Taylor, and because Taylor also taught n pixel values with two swapped packet buffers (see col.6, lines 1-12), which was a suggestion of the need for determining the number of PEs based on a

predictable size (e.g. variable size) of the packet in order to enhance the flexibility of packet allocation among the processing elements, and in doing so, provided a motivation.

5. As to claims 2,12,20,53, see SIMD in col.1, lines 15-30, see also functional blocks in fig.1.
6. As to claim 3, Taylor also taught a whole data packet was allocated to as many processing elements as are necessary to store it and to process it (see col.5, lines 26-66, col.6, lines 1-12).
7. As to claims 6,13, see data may not be processed right away in col.5, lines 33-35.
8. As to claim 8, see MAIN routine 300 in col.6, lines 26-67.
9. As to claim 16, Taylor was also directed to hardware accelerator (see the shift registers for video signals in col.5, lines 26-49).
10. As to claim 17, 56, see I/O structure in fig.1 and col.5, lines 9-25.
11. As to claims 19, 35, 38, Taylor was also operable to process data stored by that element in accordance with processing steps determined by the data concerned (see data stored in memory in col.5, lines 34-67).
12. As to claims 21,22 ,41, 44, 46,47, 40, 50, see Campbell's col.3, lines 65-68, col.9, lines 18-27.
13. As to claim 59, see output circuit 204 in col.6, lines 12-24.
  
14. As to claims 61-62, see function header in col.12, lines 13-25.
15. As to claims 63-64, see the determination on bandwidth in col.11, lines 1-9..
  
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Childers et al. (5,986,913) is cited for the teaching of a plurality of processing elements to receive the data input (see fig-1 (10), see (10) as a plurality of SIMD processing elements in col.3, lines 34-40, see fig.2 for the structure of each PE);

b) Gove et al. (5,371 ,896) is cited for the teaching of a wait operation (see the wait signal in plurality of integrated circuits (see fig.1 ).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

## **21 Century Strategic Plan**



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